PROTOCOL

GENERAL PROTOCOL FOR ASSESSING DEAD OR DISTRESSED CATTLE GRAZING IN AREAS NEAR THE GAY MINE, IDAHO

Rationale and Procedures

Submitted To: FMC Corporation
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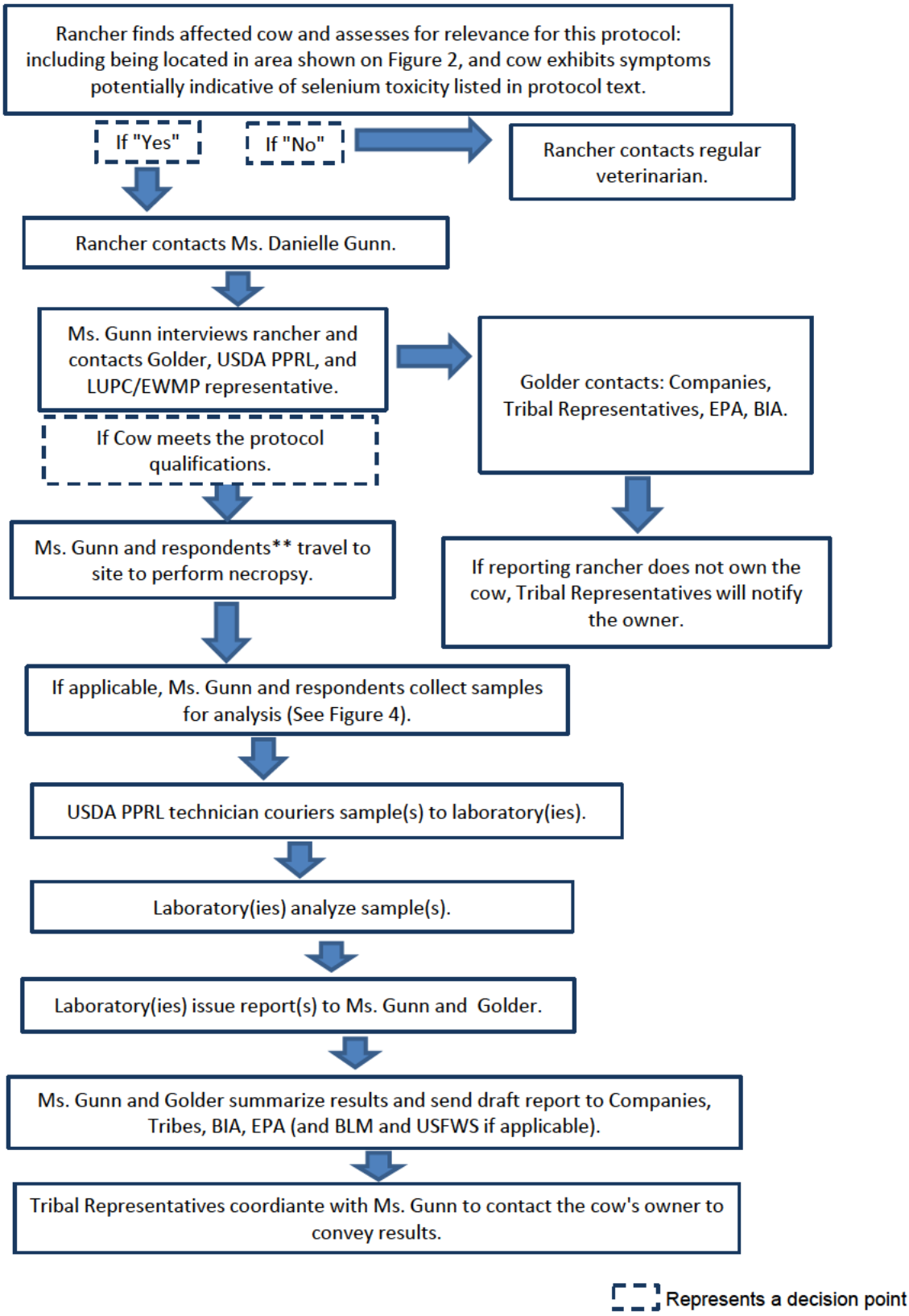
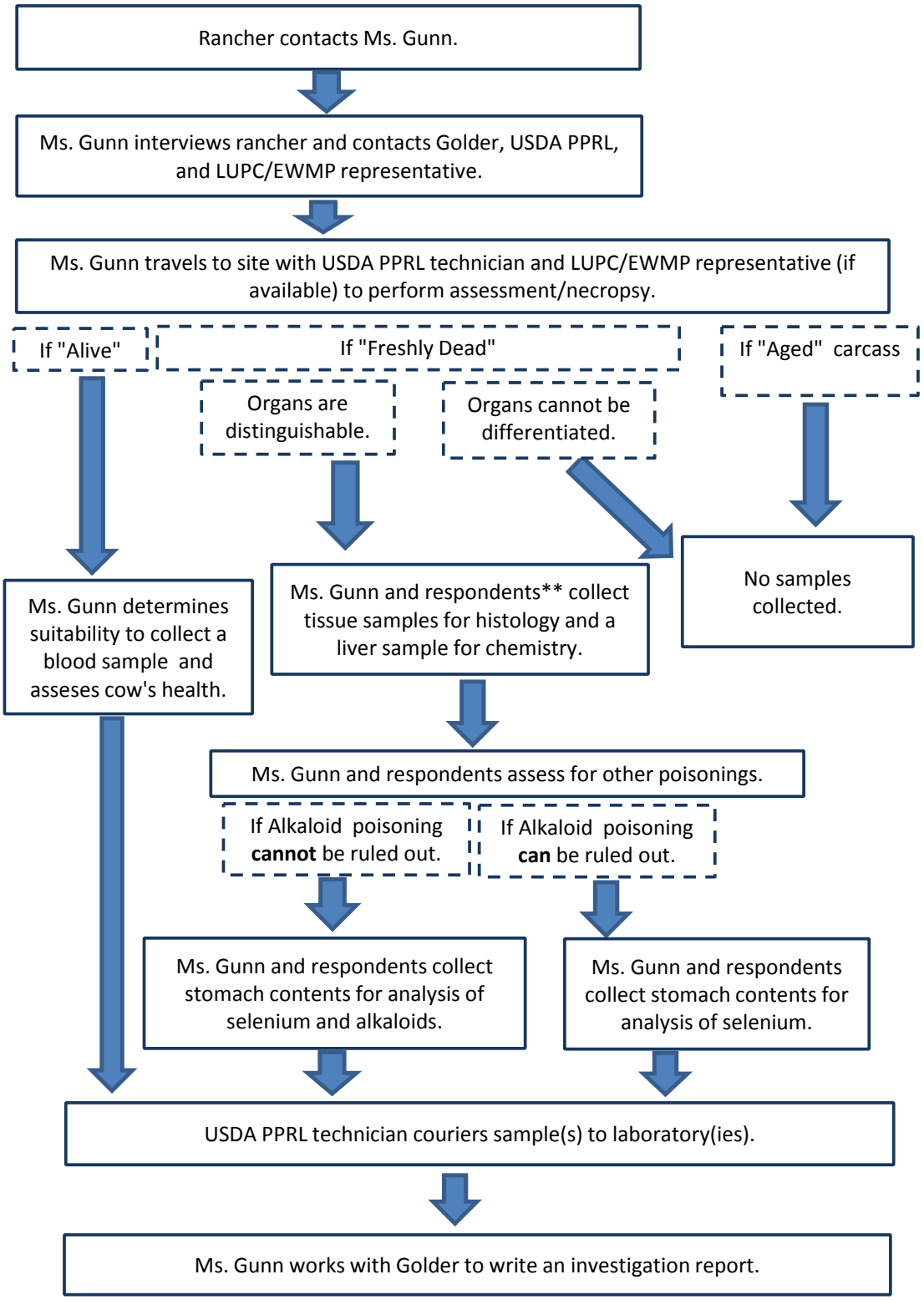
Figure 3. General Protocol Flowchart for Assessment of Cattle Found on Gay Mine



** respondents include USDA PPRL technician and Sho-Ban LUPC/EWMC Representative, as available

Figure 4. Detail of Ms. Gunn's Assessment for Tissue Collection



** respondents include USDA PPRL technician and Sho-Ban LUPC/EWMC Representative, as available

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1.0 INTRODUCTION

This protocol has been prepared by Golder Associates Inc. (Golder) on behalf of the J.R. Simplot Company and FMC Corporation (the Companies) with review and input by Ms. Danielle Gunn of the University of Idaho (UI) Extension Office, and details the procedures to be followed when dead cattle or cattle exhibiting signs of distress are found on or near the Gay Mine and are known to have recently grazed on areas of the Gay Mine Site (the Site). This protocol initially was developed independent to the current procedures in place with the ranchers and the UI Extension Office; however subsequently and based on feedback provided by the UI Extension Office, this plan has been revised to coordinate current activities on or near the Gay Mine and ensure communication and reporting between the Gay Mine stakeholders.

The Gay Mine is an inactive surface phosphate mine located in Bingham and Bannock Counties, within the exterior boundary of the Fort Hall Indian Reservation (Figure 1). The Site is about 25 miles northeast of Pocatello and 15 miles east of Fort Hall, Idaho (Figure 1) in parts of Townships 4 and 5 South, and Ranges 37 and 38 East of the Boise Meridian. The elevation of the Site ranges from 5,400 to 6,200 feet above mean sea level.

Areas on and near the Gay Mine are used as grazing land by members of the Shoshone-Bannock Tribes (Tribes) and other individuals. There are four cattle grazing units on or near the Gay Mine (Figure 2): Unit 3 comprising 113,000 acres (ac) overall, Unit 10 comprising 18,000 ac, Unit 6B with 26,500 ac, and Unit 6C with 16,800 ac (Hernandez 2011). However, the tribe does not allow grazing on Unit 6C.

This protocol has been prepared to focus on cattle. However, there is also potential for selenium toxicity to affect other livestock such as sheep and horses. There are currently no sheep grazing permits for the site, but sheep are periodically herded across the site to other areas. If potential selenium toxicity is observed with sheep or horses, Ms. Danielle Gunn can be consulted per the standard procedures in place with area ranchers. Sheep and horses can be considered for future inclusion in this protocol if incidences of selenium toxicity are identified.

For the purposes of this protocol, the singular term “cow” is used to represent any male or female adult or juvenile head of cattle (i.e., cow, heifer, steer, bull, calf, etc.). Additionally, the term “rancher” is used generally to apply to a person who finds a dead or distressed cow, regardless of their actual profession or ownership status in relation to the affected cow.

1.1 Protocol Purpose and Scope

This protocol was developed to establish procedures for assessing dead cattle or cattle exhibiting signs of distress on the Gay Mine grazing leases. The companies understand that procedures are currently being followed by the ranchers in conjunction with the UI Extension Office, however this protocol will focus on the

Gay Mine and contingent areas as discussed below as well as ensure that communication of any finding as associated with dead cattle are distributed to the stakeholders, as discussed in Section 2.4.

Following consultation with a former Bureau of Indian Affairs (BIA) employee (Hernandez 2011), an extent of two miles was selected to represent the maximum distance a cow would likely travel during daily foraging activities on the Site. This distance was applied to the mine pits and reclaimed mill shale and overburden piles to determine an area of interest around the Site, depicted in Figure 2. When a dead or distressed cow is found within this area of interest, a rancher should follow the steps discussed in Section 2.1 of this protocol to determine if the cow is subject to this protocol.

This protocol is separate from the Remedial Investigation for the Gay Mine; however, data collected may be used to supplement the Remedial Investigation, as appropriate. In addition, if the data collected as result this protocol do not indicate selenium impacts to any observed dead cattle, specific sampling and reporting requirements beyond those that are currently in place with the ranchers may be discontinued, upon approval from EPA.

1.2 Protocol Organization

This protocol includes the following sections:

- Section 2 details the protocol methods and procedures to be followed upon finding a dead or distressed cow on or near the Gay Mine property that falls within the identified area of concern shown on Figure 2.
- Section 3 provides a list of references used to create this protocol.
- Appendix A includes copies of the forms that respondents will need for a field assessment and sample tracking.

2.0 PROTOCOL FOR INVESTIGATION OF DEAD OR DISTRESSED CATTLE

Protocol Applicability: The purpose of this protocol is to provide a set of procedures for attempting to establish a cause of death in the event that a cow is found exhibiting significant signs of distress or that has recently died within a two-mile radius of disturbed mined areas at the Gay Mine. This protocol is intended to be flexible to address circumstances that cannot be predicted at this time (e.g., prohibitive conditions in the field or other causes of death Ms. Gunn or histologist may identify based on the collected samples).

Cattle deaths from obvious physical trauma or other known health and husbandry concerns are not addressed by this protocol and in these cases ranchers should go through their routine procedures. This protocol specifically applies only to cows exhibiting the following symptoms and found within the area of concern shown in Figure 2, which is on or near the Gay Mine property:

- **Distressed Cow.** Cow is still alive but is exhibiting signs of significant distress that includes the following symptoms potentially indicative of selenium toxicity: abnormal movements or posture, unsteady gait, abdominal pain, dropped head, fatigue, lethargic and off feed behavior, diarrhea, labored breathing, uncharacteristic hair loss (particularly on the tail), rough hair coat, emaciation, overgrown or deformed hooves, and lameness.
- **Recent Death**. Cow is recently dead (death within the prior 24-36 hours). This protocol assumes that ranchers or range riders will check on their herd regularly. This protocol does not apply to aged carcasses – meaning cows that have died, gone through decomposition, and/or only have skin and/or bones remaining.

If the cow is not a recent death or distressed as defined above, or is distressed or as a recent death but located outside of the area of concern, then ranchers should address these situations through their routine procedures and not through this protocol.

The remainder of this section details the roles and steps to be taken by the parties in this program, who include: the rancher or other individual who finds the cow, Ms. Gunn and a USDA Poisonous Plant Laboratory Technician, the histopathologist, analytical laboratories, Golder, the Companies, the Tribal representatives, BIA and the USEPA. The anticipated flow of events is depicted in Figure 3. Supporting forms are provided in the appendices of this protocol.

2.1 Procedures for Rancher

This protocol description provides the procedures for rancher response. However, any Tribal member can implement this protocol according to the procedures in this section. Ranchers are provided this protocol as an option for their consideration should a cow be found within the area of concern shown in Figure 2 with the following symptoms:

- Cow is recently dead within the area shown in Figure 2, defined as probable death within the prior 24-36 hours. This protocol assumes that ranchers will check on their herd regularly, and does not apply to historic deaths – meaning cows that have died and only skin and/or bones remain. It is too difficult to determine cause of death from an aged carcass.
- Cow exhibits some of the following symptoms within the area shown in Figure 2: abnormal movements or posture, unsteady gait, abdominal pain, dropped head, fatigue, lethargic and off feed behavior, diarrhea, labored breathing, uncharacteristic hair loss (particularly on the tail), rough hair coat, emaciation, overgrown or deformed hooves, and lameness.

If the symptoms in the previous list ARE NOT observed and a cow is exhibiting symptoms of sickness or disease other than those that may be attributed to selenium toxicity, this protocol does not apply and the rancher should contact his/her regular veterinarian for treatment. Similarly, if the affected cow is outside the boundaries for the area of concern shown in Figure 2, or if the affected cow has been grazing solely outside the mine area, this protocol does not apply and the herd's regular veterinarian should be consulted for treatment.

If the symptoms in the previous list ARE observed, the rancher will need to take the following actions IMMEDIATELY:

1. If a cow is found in distress, treat the animal as appropriate to minimize harm (including contacting the regular veterinarian and/or removal from the area). Contact Ms. Gunn as soon as possible and relay pertinent information. Blood samples may be collected if it is determined that it would not cause undue harm to the animal.
2. If a cow is found dead, do not disturb the animal or the nearby area until after Ms. Gunn has examined the animal and surrounding area and cleared the activity.
3. Contact Ms. Danielle Gunn (University of Idaho Agricultural Extension Educator, Fort Hall) for an immediate inspection and evaluation of the dead or distressed cow. In the event that she cannot be reached by telephone, please leave a detailed message including a call-back number. Please remain available to meet and escort her to the cow as soon as possible. A quick response is necessary to ensure the greatest potential for collection of tissue samples.
   - Ms. Danielle Gunn at 208-236-1046
4. Provide Ms. Gunn with the following information:
   - Location of the dead or distressed cow on or near the Gay Mine
   - Rancher's name and a phone number for future contact
   - Description and status of the cow

- If the cow is behaving abnormally and exhibiting severe signs of distress – what symptoms the cow is showing
- If dead –the approximate time since death (i.e. number of hours or days since last seen alive, if known) and what symptoms the cow was showing prior to death

- Details on the location of the cow and where it was grazing within the past 3 days, if known
- Arrange a time **as soon as possible** to meet Ms. Gunn and escort her to the location of the cow. The quicker Ms. Gunn and associates can assess and/or necropsy the cow, the more accurate a determination as to the cause of death can be made

While Ms. Gunn conducts the investigation, the rancher is encouraged to remain in the area to answer any other questions she may have. After Ms. Gunn leaves, the rancher can remove or dispose of the carcass if desired.

All investigation results and findings will be incorporated in a report prepared by Ms. Gunn and Golder. Ms. Gunn or the Tribal representative will contact the rancher regarding the findings of the investigation.

2.2 Procedures for Ms. Danielle Gunn (UI Extension Agent)

Confirm Cow Symptoms and Location: When contacted by a rancher, Ms. Gunn will review the cow's symptoms (if alive or known before death) and current and historic grazing location. The eligible area for consideration is outlined in Figure 2. The cow is eligible for coverage under this protocol if it likely has died in the prior 24-36 hours within the outlined area identified in Figure 2, or if it is sick and has symptoms indicative of potential selenium toxicity including:

- Abnormal movements or posture, unsteady gait, abdominal pain, dropped head, fatigue, lethargic and off feed behavior, diarrhea, labored breathing, uncharacteristic hair loss (particularly on the tail), rough hair coat, emaciation, overgrown or deformed hooves, and lameness.

If the cow's location or symptoms cannot be accurately determined by the rancher, Ms. Gunn should respond according to this protocol until a confirmation of ineligibility can be made (e.g., the cow is alongside a road and shows clear signs of being hit by a vehicle and no external signs characteristic of selenium toxicity, or if the location of the cow is clearly outside of the area of concern as shown in Figure 2).

If it is clear that the cow is suffering from a condition not attributable to selenium toxicity, Ms. Gunn will inform the rancher of her recommendation for treatment from their regular veterinarian. Ms. Gunn will contact Golder per the communication chain noted in the next section and relay the pertinent information.

Start Communication Chain: After receiving a call and agreeing to respond, Ms. Gunn will immediately contact or leave a message for the following Golder personnel to inform them that a sick or dead cow is being investigated:

- Mr. Jeremy Clark: work: 206-316-5515 or ***(b) (6)***

If Mr. Clark is not available, leave a message for him and also contact:

- Mr. Doug Dunster: work: 206-316-5535 or ***(b) (6)***

Ms. Gunn then will contact the Land Use Policy Commission and Environmental Waste Management Program (LUPC/EWMP) departments of the Shoshone-Bannock Tribes and inform them that a sick or dead cow is being investigated. The Tribal personnel will be provided the opportunity to participate in the site investigation provided they are available in a timely manner, given that time is of the essence with the collection of animal tissue.

- LUPC/EWMP Department (Virginia Monsisco): 208-236-1048

Golder personnel will, in turn, notify the Companies, other Tribal representatives, the BIA representative, and the US EPA representative that a dead/distressed cow is being investigated (detailed in Section 2.4).

Meet the Rancher: Ms. Gunn will coordinate with personnel at the USDA PPRL and the LUPC/EWMP to meet the rancher at the site to assess the health of the cow (if alive) or perform a necropsy and collect tissue samples if recently dead. If the person reporting the incident is not the cow's owner and is not available to remain at the site and escort Ms. Gunn, the reporting rancher should contact the cow's owner immediately to meet Ms. Gunn at the agreed location. Time is of the essence in diagnosing cause of illness or death. Therefore, the contacting rancher (owner or otherwise) should make every effort to meet Ms. Gunn and other respondents promptly.

Examination, Necropsy and Tissue Sample Collection: Once at the cow's location with a rancher, Ms. Gunn and other respondents will complete a necropsy following the general checklist included in Appendix A1. The checklist included in Appendix A1 is simply a guide to report findings and ensure a comprehensive review, and not a defined necropsy procedure. Ms. Gunn will follow the standard of care for this practice and is not constrained by procedures outlined in this protocol. She will note the cow's location to the best of her ability and take a history of the cow's medical health and grazing locations from the rancher using the form included in Appendix A1. Ms. Gunn will take photographs with a date and time stamp of the cow's location, noting nearby forage types or water sources. She will note the external condition of the cow, taking care to note the condition of the cow's hair, tail, hooves, etc. for any anomalous findings. The internal examination of the dead cow (assuming there is a timely response to the death), will consist of the oral cavity, heart, lungs, kidneys, liver, intestines, rumen contents, bladder, and reproductive organs (as appropriate). Ms. Gunn will photograph the cow's external condition and internal organs as appropriate and include copies of the photos with the final report.

This protocol is primarily concerned with selenium toxicity to cattle. Other sources of cattle toxicity common in south-east Idaho include poisoning by alkaloid compounds that naturally occur in larkspur (Delphinium

sp.) and lupine (Lupinus sp.) that have been found on the Gay Mine (Dames and Moore 1981, Mariah Associates 1986). Clinical signs of alkaloid poisoning include uneasiness, a stiff gait, and a straddled stance with hind legs held far apart, collapse, muscle twitching, nausea, bloat, and death from respiratory paralysis or asphyxiation. A diagnosis of larkspur poisoning can be made from an analysis for alkaloids in the animal's stomach contents, blood, or liver.

Ms. Gunn may collect tissue samples for chemistry (including both selenium and alkaloid compounds) and histological analysis using clean gloves following the general analysis of the deceased animal's condition discussed below and shown in Figure 4. The possible animal tissues for collection are: blood (from live animal showing symptoms of selenium toxicity); liver, cardiac, lung, and muscle tissue (from dead animal when the liver and other organs can be differentiated); rumen contents (from dead animal for selenium and also to rule out possible alkaloid poisoning); hooves and hair (archived from dead animal for potential future analysis, if warranted). In addition, nearby plant and/or water samples may be collected and analyzed for selenium concentration.

A summary of tissues to be collected based on animal "condition" follows. Volumes or weights listed are minimum sample sizes provided by the analytical laboratories. Where possible, larger amounts should be collected and shipped to the laboratories.

If animal is alive and showing signs of severe sickness (death considered imminent) and blood can be collected without causing undue stress to the animal:

- Blood will be collected from the jugular vein using restraint to ensure quick, easy and safe collection of the sample causing minimal animal distress. A variety of collection devices may be used - vacutainers, bleeding tubes, syringe and needle. The minimum amount of blood is 5 ml or more. This will be shipped to the Utah Veterinary Diagnostic Lab for analysis.

If animal is recently dead (likely within the prior 24-36 hours) and tissues can be distinguished from one another due to limited decomposition:

- Two samples of liver tissue will be collected. Liver sample collected for pathology should be about 1 cm thick and stored in a sample container with 10% neutral buffered formalin (NBF; Stegelmeier et al. 2009) to courier to the Utah Veterinary Diagnostic Lab for histologic review. Liver collected for selenium analysis should be at least 20 grams in weight and placed in a small glass sample container without NBF and couriered to the Utah Veterinary Diagnostic Lab. Other tissues collected for pathology and placed in NBF include cardiac, skeletal muscle, and lung tissue, as available.
- A 50 g sample of rumen contents will be collected and stored in a small glass container and couriered to the Utah Veterinary Diagnostic Lab to be analyzed for selenium concentration.
- If alkaloid poisoning cannot be ruled out, an additional 100 g sample of rumen contents will be collected and stored in a small glass sample container to be analyzed for the presence of plant alkaloids by the USDA Poisonous Plant Research Lab.

- A foot with hoof and a patch of skin (roughly 2 in. by 2 in., minimum) containing hair should be collected, placed in separate 1 gallon Ziploc bags, and couriered with the tissue samples in NBF to the Utah Veterinary Diagnostic Lab. Skin with hair should be collected from a location on the cow that has a high density of hairs, such as along the ventral central line, at the base of the horns, or another location on the animal's body where the hair directions merge and are available for collection. These samples will be archived for potential future analysis, if warranted.

If the tissues cannot be distinguished from one another due to advanced decomposition:

- No samples collected

The sample containers will be labeled with the date and time collected and the sample ID. Sample ID's/numbers do not need to be complex, just unique so that the sample can be tracked through collection and analysis (e.g., GM-1, or Zpit-2). All labeled sample containers will be wrapped in bubble wrap or another protective covering and placed in a 1 gallon Ziploc bag. If Blue Ice is not available, regular (wet) ice can be used if double-bagged in Ziploc bags. Ms. Gunn will photograph all samples collected.

Tissue Sample Handling and Shipping:

Fresh tissue selenium samples

Collected blood or digesta and liver tissue (as appropriate) to be analyzed for selenium concentrations will be kept on Blue Ice (or double-bagged wet ice if blue ice is unavailable), and transported by the USDA PPRL technician to the Utah Veterinary Diagnostic Laboratory for analysis. Nearby water and selenium-accumulating plant samples will be collected at the discretion of Ms. Gunn and the technician from the USDA PPRL and analyzed for selenium.

Utah Veterinary Diagnostic Laboratory
C/O Dr. Jeffery Hall
950 East 1400 North
Logan, UT 84341
Phone: (435) 797-1895

Tissue pathology samples

For tissue samples collected for pathology (liver, kidney, heart, lung, and muscle, as available), Ms. Gunn will place the labeled samples on Blue Ice (or double-bagged wet ice if Blue Ice is unavailable) in a small cooler and the USDA PPRL technician will courier the samples taken back to the Utah Veterinary Diagnostic Laboratory for processing and histological review. The Chain of Custody Form (Appendix A2) will be filled out and will accompany the samples to:

Utah Veterinary Diagnostic Laboratory
C/O Dr. Jeffery Hall
950 East 1400 North
Logan, UT 84341
Phone: (435) 797-1895

Digesta for Alkaloid Analysis

For digesta collected for alkaloid analysis, Ms. Gunn will place the labeled samples on Blue Ice (or double-bagged wet ice if Blue Ice is unavailable) in a small cooler. The technician from the USDA PPRL will courier the samples back to the laboratory.

USDA-ARS-PPRL
C/O Dr. Zane Davis
1150 E. 1400 North
Logan, UT 84341
Phone: (435) 752-2941

Reporting: Ms. Gunn will work with Golder to issue a draft report within 60 days of receipt of all laboratory and histologic data including any determination of the animal's sickness or cause of death, a summary of all necropsy findings, list of tissues collected and shipped, a copy of the completed form in Appendix A, and any pictures taken.

Necessary Equipment to Keep On-Hand: Ms. Gunn will need to maintain the following equipment for a ready response or ensure that they are brought by the coordinating USDA PPRL technician (e.g, the sample containers). This list includes equipment Ms. Gunn is responsible to provide, as well as equipment that Golder will provide prior to the start of this program.

- Copy of this protocol and maps
- Copy of the necropsy/evaluation checklist provided in Appendix A and writing instrument
- Field necropsy kit/tools (including latex or nitrile gloves)
- Digital camera (with date/time displayed in the photographs)
- Sample containers, including 10% NBF for fixing tissue for histology (provided by the laboratories)
- Packing tape (provided by Golder)
- Box of 1-gallon Ziploc bags (provided by Golder)
- Frozen Blue-Ice packs (provided by Golder)
- Sample shipping containers (i.e., coolers) (provided by the USDA PPRL technician)

2.3 Procedures for Laboratories

Laboratories will perform the specified analyses and issue a summary report to Ms. Gunn, including laboratory Quality Assurance/Quality Control (QA/QC) data.

2.3.1 Analytical Laboratory (selenium)

Upon receipt of the tissue (animal or plant) and/or water samples, the Utah Veterinary Diagnostic Lab will inspect the samples for any breakage or disturbance that could have occurred during shipping and store the samples until analysis.

The samples will be digested and analyzed by ICP/MS according to standard laboratory procedures. All laboratory blanks and relevant spikes or duplicates will be analyzed and reported. This laboratory also will measure the percent moisture for the tissue sample(s) and digesta. Results in mg/kg wet weight will be reported for each tissue submitted, as well as mg/kg dry weight for liver and digesta.

2.3.2 Analytical Laboratory (alkaloids)

Since analysis for alkaloids in tissue is a specialized service, the USDA Poisonous Plant Research Unit in Logan, UT (see Section 2.2 for contact information) will perform this analysis for any stomach digesta collected. This research laboratory is experienced in research specific to plant alkaloids and livestock poisoning.

After receipt, this laboratory will inspect the samples for any breakage or disturbance that could have occurred during shipping and store the sample. The lab will use capillary gas-liquid chromatography (GLC) combined with mass spectrometry (MS) to analyze the digesta for the presence of plant alkaloids. This method combines the separation component of GLC with the identification of MS.

2.3.3 Pathology Laboratory

The diagnostic laboratory selected to review the tissue samples for pathology is the Utah Veterinary Diagnostic Laboratory (see Section 2.2 for lab contact information), due to its proximity to the Site and familiarity with past selenium poisonings of livestock in south-east Idaho. Dr. Jeffery Hall is a Member of the American Board of Pathology.

After receipt, this laboratory will inspect the samples for any breakage or disturbance that could have occurred during shipping, sign the Chain of Custody form, and store the histological samples preserved in 10% neutral buffered formalin at room temperature. The laboratory will prepare the tissue histology samples according to their standard procedures for review by microtoming and fixing on slides. Representative slides will be reviewed for any abnormalities and findings prepared or reviewed by a Member of the American Board of Pathology. Any hooves or hair samples submitted will be archived and frozen pending the other findings. If necessary to assess potential selenium poisoning, a section of the hoof will be microtomed and fixed onto a slide for review. If necessary to assess potential selenium toxicity, samples of hair also will be digested and analyzed for selenium concentration by ICP-MS at the laboratory according to standard laboratory procedures.

2.4 Procedures for Golder and the Companies

When Ms. Gunn contacts Golder and reports that a dead or distressed cow is under investigation, Golder will inform the following people via email as soon as practicable (generally within 1 business day of receiving contact from Ms. Gunn):

- The Companies:
  - Ms. Rachel Greengas, project manager for FMC (215-299-6550, rachel.greengas@fmc.com)
  - Mr. Jeff Hamilton, project manager for J.R. Simplot Company (208-235-5670, jeffrey.hamilton@simplot.com)
- Tribal representatives:
  - Mr. Mark Wadsworth, range conservationist (208-238-2311, mark.wadsworth@bia.gov)
  - Mr. Kelly Wright, Environmental Waste Management Program (208-236-1049, kwright@sbtribes.com)
- BIA representative:
  - Ms. Donna Smith (509-258-4561, donna.smith@bia.gov)
- US EPA representative:
  - Mr. Joe Wallace, Project Manager US EPA Region 10 (206-553-4470, wallace.joe@epa.gov)

Upon completion of work described in this protocol, a summary report will be prepared within 60 days of receipt of all laboratory and histological data, including information from Ms. Gunn, histologist, and analytical results or reports and will be distributed to the US EPA, BIA, and the designated Tribal representative. If the findings indicate that selenium may have caused the cattle mortality, the Companies will distribute a copy of the summary report to Colleen O'Hara at BLM at cohara@blm.gov and Sandi Fisher and Jeremy Moore at FWS at Sandi_Fisher@fws.gov and jeremy_n_moore@fws.gov. Mr. Mark Wadsworth will work with Ms. Gunn to notify the rancher of the results (Section 2.5).

2.5 Procedures for Tribal Representatives

The Tribal representatives for the Shoshone-Bannock Tribes will be Mr. Mark Wadsworth, a range conservationist with knowledge of cattle grazing activities on Tribal land as well as Mr. Kelly Wright, the contaminated sites project manager.

Tribal representatives:

Mr. Mark Wadsworth
Land Use – Range Management
PO Box 306
Fort Hall, ID 83203
Phone: 208-238-2311
mark.wadsworth@bia.gov

Mr. Kelly Wright
Environmental Waste Management Program
Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, ID 83203
Phone: 208-478-3903
kwright@shoshonebannocktribes.com

The LULC/EWMP personnel will have an opportunity to assist in active investigations once notified by Ms. Gunn. These Tribal representatives will be able to review the draft investigation report. Once the report is finalized, Mr. Mark Wadsworth will coordinate with Ms. Gunn to contact the owner of the cow that was studied to convey the results of the investigation.

2.6 Procedures for BIA and US EPA

The BIA and US EPA will be notified that a dead/distressed cow is being investigated and also of the final results regarding cause of death (if determinable). These individuals have no required follow-up actions under this plan.

BIA representative:

Ms. Donna Smith

Bureau of Indian Affairs
PO Box 389
Wellpinit, WA 99040

Email: donna.smith@bia.gov

US EPA representative:

Mr. Joe Wallace
U.S. EPA Region 10
1200 Sixth Ave. ECL-113
Seattle, Washington 98101
Phone: 206-553-4470
Email: wallace.joe@epa.gov

3.0 REFERENCES

Dames and Moore. 1981. Environmental Assessment Report, Proposed Joint-Lease Phosphate Mine, Fort Hall Indian Reservation, Idaho, for J.R. Simplot Company. January 1981.

Hernandez, Sam. 2011. Personal communication (phone conversation) between Sam Hernandez (BIA) and Sue Robinson (Golder Associates) regarding livestock grazing on the Gay Mine and access issues for veterinarians responding for the purposes of this protocol, August 23.

Mariah Associates. 1986. Environmental Assessment Report, Gay Mine Expansion Area, Fort Hall Reservation, Idaho. Prepared for J.R. Simplot Company, FMC Corporation, Shoshone-Bannock Tribes. September.

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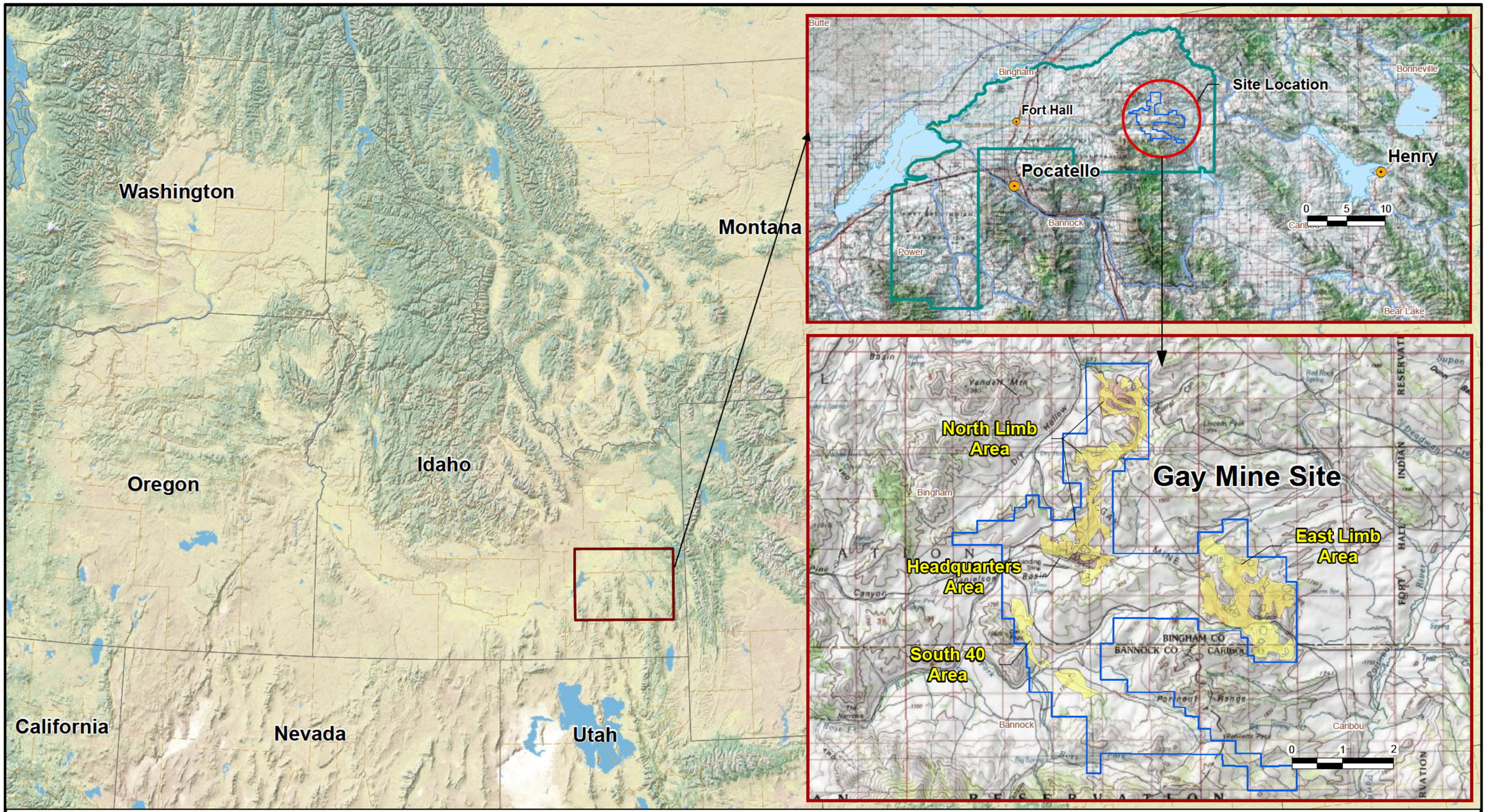
FIGURES



LEGEND

- Gay Mine Reclamation Areas
- Fort Hall Indian Reservation
- CERCLA Site Boundary
- County Boundary
- State Boundary

N

0 75 150

Scale in Miles

Map Projection:
State Plane Idaho East FIPS 1101 Feet
NAD 1983

Source:
USGS (Mine Area, 2006), StreetMap USA (2010), USGS-NDH (streams), USGS-10m NED (elevation), ISU-MSBD (Ownership), Golder Associates Inc.

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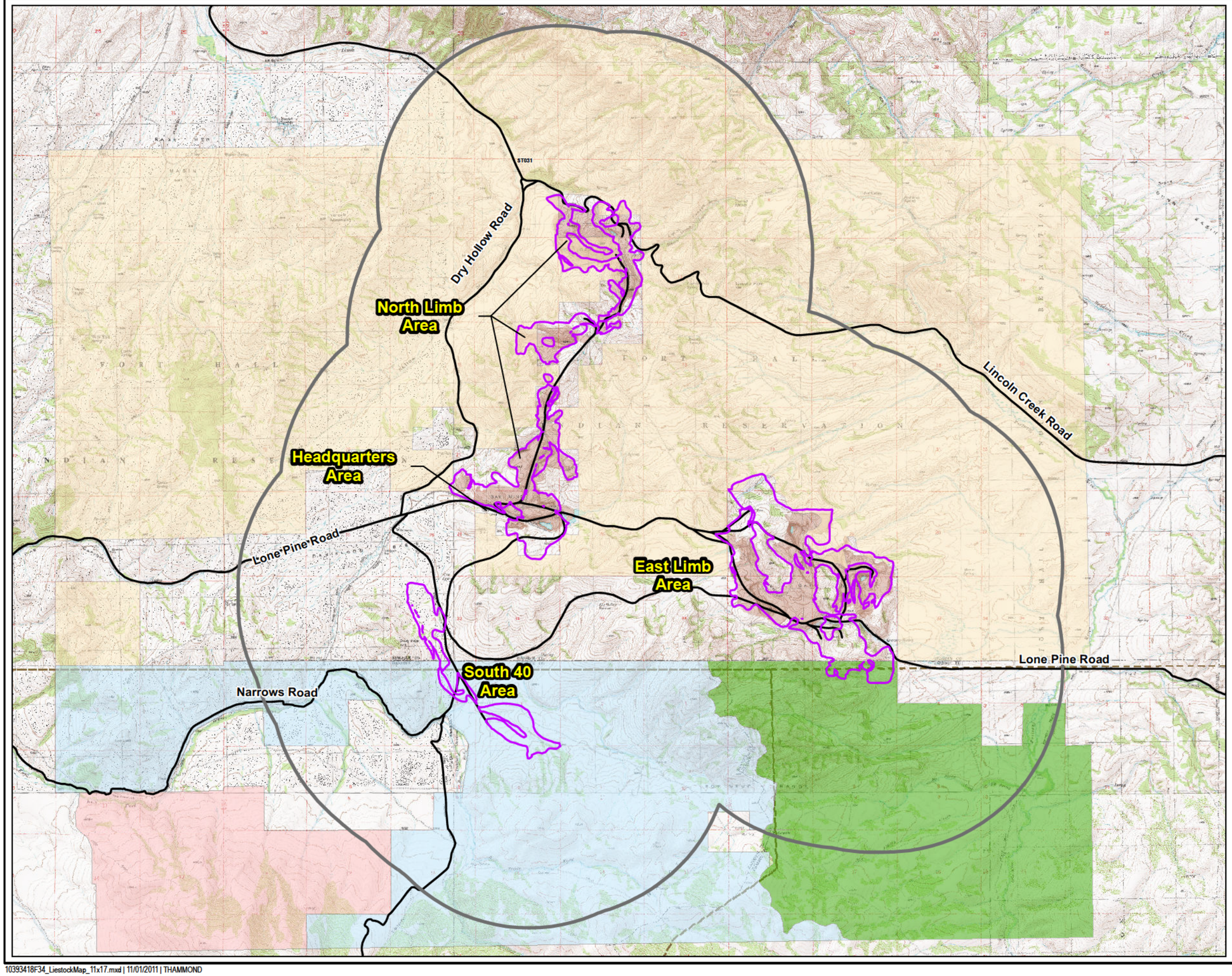
This figure was originally produced in color. Reproduction in black and white may result in loss of information.

FIGURE 1
GAY MINE SITE OVERVIEW
NATIONAL, REGIONAL, AND LOCAL
GAY MINE/ID

10393418F33_Overview_11x17_JC.mxd | 9/09/2011 | THAMMOND



LEGEND

- Road
- 2 mile Buffer of Mill Shale Piles, Pits and Reclamied Areas
- Mill Shale Piles, Pits and Reclamied Areas
- County Boundary

Range Unit

- 3
- 10
- 6B
- 6C

NOTE: The range units, as shown, do not represent their full spatial extent but are displayed for the area near the Gay Mine.

N

0 6000

Scale in Feet

Map Map Projection:
State Plane Idaho East FIPS 1101 Feet
NAD 1983

Source:
USGS (topo), Shoshone-Bannock Tr be (2001 range units)
Golder Associates Inc.

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **2**

GAY MINE SITE -
LIVESTOCK SAMPLING PROTOCOL
GAY MINE, POCATELLO, BINGHAM COUNTY, IDAHO

10393418F34_LiestockMap_11x17.mxd | 11/01/2011 | THAMMOND

Golder Associates

APPENDIX A
FIELD FORMS

A1. FIELD ASSESSMENT FORM

Gay Mine Cattle Necropsy Check List

Prior to Responding:

Name	
Date and Time	
Reporting Individual: Name	
Phone number	
Cow Owner's Name and phone number (if different than Reporting Individual)	
Animal ID	
Animal Location (Section, Township, Range; GPS, or general description)	
Symptoms Observed	
Known Clinical History	
Approximate time since death	
Collect necessary field gear (including GPS receiver if available), camera, necropsy kit, sample containers, etc.)	

When Responding:

	Notes, any pictures taken (Frame Number, Description)
Animal Location (approximate using Figure 2)	
Photos taken	
Nearby forage types, nearby water?	
Sex and approximate age	
External Body Condition (including coat/hair, hooves)	
Oral Cavity	

When Responding:	Notes, any pictures taken (Frame Number, Description)
Heart	
Lungs	
Kidneys	
Liver	
Intestines	
Rumen and contents	
Reticulum	
Omasum	
Abomasum	
Bladder	
Reproductive Tract (as appropriate)	
Udder (as appropriate)	

Samples collected for chemistry or histology and put in a cooler on ice	Sample Number / Date
Blood (if animal is alive)	
Liver for selenium	
Liver or other tissues for histology (in formalin)	
Stomach contents for selenium	
Stomach contents for alkaloids	
Hoof	
Skin with hair	

A2. EXAMPLE SAMPLE CONTAINER LABELS

Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________	Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________
Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________	Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________
Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________	Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________
Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________	Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________
Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________	Gay Mine Livestock Response – Golder Assoc. Name:______________________________ Date / Time: _____________________________ Tissue: _________________________________ Sample No.:______________________________

A3. ANALYTICAL LABORATORY COC FORM

Golder Associates
18300 NE Union Hill Road, Suite 200
Redmond, WA USA 98052
Telephone: (425) 883-0777
Fax: (425) 882-5498
www.golder.com

CHAIN OF CUSTODY RECORD

Project Number/Name:	Golder Contact:
1039341816, Gay Mine RI/FS	Doug Dunster (Doug_Dunster@golder.com), Jeremy Clark (jerclark@golder.com)

Sampler: (print) (signature)

DATE/TIME	SAMPLE ID	SAMPLE TYPE	Number of Bottles	ANALYSIS REQUESTED: Selenium (ICP/MS)	Plant Alkaloids					COMMENTS

RELINQUISHED BY:	DATE & TIME	RECEIVED BY:	RELINQUISHED BY:	DATE & TIME	RECEIVED BY:

REMARKS: (By/Time/Date)

Golder Associates

A4. UTAH STATE DIAGNOSTIC LABORATORY SUBMISSION FORM

UTAH VETERINARY DIAGNOSTIC LABORATORY
Utah State University &
Utah Department of Agriculture and Food

Main Laboratory
Phone: (435) 797-1895
FAX: (435) 797-2805
E-mail: uvdl@cc.usu.edu
Web site: www.usu.edu/uvdl

Branch Laboratory
514 West 3000 North
Spanish Fork, UT 84660
Phone: (801) 798-5435
FAX (801) 798-7009

Mail
PO Box 6338
Logan, UT 84341

UPS/FedEx/Drop off
950 East 1400 North
Logan, UT 84341

Laboratory use only

Accession Number:_____
Case Coordinator:_____
Courier:_____
Accessioned By:_____
Date received:_____
Account Name:_____
Amount:_____
Date Paid:_____

Legal Case? ☐

Results to be sent to: ☐ Veterinarian ☐ Other _____
Results by (Select one): ☐ Fax ☐ Mail ☐ Email
Person to be billed: ☐ Veterinarian ☐ Other _____

Veterinarian _____
Clinic _____
Address _____
City _____ State ___ Zip _____
Phone (____) _____
Fax (____) _____
E-Mail Address _____

Owner _____
Business _____
Address _____
City _____ State ___ Zip _____
Phone (____) _____
Fax (____) _____
E-Mail Address _____

Species: _____ Breed: _____ Animal ID: _____
(For multiple animals provide a list)

Gender: ☐M ☐F ☐Neutered Age: _____ Duration of illness: _____
History: _____

Laboratory section	Sample(s) submitted	Test(s) requested
☐ Bacteriology		
☐ Clinical Pathology	Please use clinical pathology accession form	
☐ Histopathology/IHC		
☐ Molecular diagnostics		
☐ Parasitology		
☐ Serology		
☐ Toxicology		
☐ Necropsy (Includes disposal; if cremation or incineration desired, check below)		Laboratory use only: Sample condition:
☐ Cremation (Ashes returned) ☐ Incineration (No ashes returned)		
☐ Disposal		
☐ Other (Explain)		

Note: UVDL reserves the right to modify the tests requested for more efficient case work-up and/or to send specimens to outside laboratories to perform testing not done at UVDL.

Submitted by: _____

Accession verified by:
Initials: _____
Date: _____

11/12/15

Accession verified by:
Initials: _____
Date: _____